UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2184	

DATE MAILED: 02/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 July 1999_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-14_ is/are rejected.

7)☒ Claim(s) _7, 12, and 14_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _30 July 1999_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _6,8_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Objections

5. Claims 7, 12, and 14 are objected to because of the following informalities: *at least one of the controller* should read *at least the controller*. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2 and 8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claims 2 and 8, the applicant claims *a monitor for monitoring a wake-up signal generated by the stored-program control and transmitted to the stored-program control by the controller*. On page 3, lines 27-28 and on page 6, lines 1-2, the applicant discloses that the controller forwards a wake-up signal of the stored-program control to a monitor. Further in figure 1, it is clear that the wake-up signal (25) is coming from the controller (10) and going to the monitor (24). There isn't a wake-up signal being transmitted to the stored-program control by the controller. Based upon the specification and figure 1, the examiner will examine claims 2 and 8 as meant

to be *a monitor for monitoring a wake-up signal generated by the stored-program*

control and transmitted to the monitor by the controller.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4.   Claims 1, 2, 4-8, and 10-14 are rejected under 35 U.S.C. 102(e) as being

anticipated by Poisner, U.S. Patent 6,012,154.

Referring to claim 1:

a.   In column 4, lines 14-26, Poisner discloses a computer system (safety

device) with a processor, coupled to a host bus, for processing information

(controller). Further, in column 4, lines 36-41, Poisner discloses an expansion

bus bridge that couples the host bridge to an expansion bus (bus system).

Devices (peripheral devices) coupled to the expansion bus include a display

device, an alphanumeric input device, a BIOS read-only memory, and an

information storage device for storing information including an operating system

and applications.

b.   In column 3, lines 32-40, Poisner discloses an interrupt handler stored in

non-operating system memory space (memory with safety-relevant data stored

on it).

Referring to claim 2, in column 4 lines 60-67 continued in column 5 lines 1-9,

Poisner discloses a timer (monitor) which is periodically reset with the value stored in

register (wake-up signal) by the software agent (stored-program control).

Referring to claims 4 and 10, in column 2, lines 31-52, Poisner discloses that if

the timer does expire (function of wake-up signal), an interrupt is generated. The

generated interrupt causes the processor to execute an interrupt handler. The interrupt

handler attempts to investigate and cure any system malfunction that resulted in the

timer expiring. One such interrupt it attempts to correct is Peripheral Component

Interconnect interrupts. This involves data exchange with the expansion bus (bus

system) and its inherent bus controller because the peripherals are connected to the

expansion bus.

Referring to claims 5 and 11, in column 4, lines 36-41, Poisner discloses an

alphanumeric input (control signal) connected to an expansion bus (interface), which is

in turn connected to the host bus. In column 4, lines 14-26, Poisner discloses that the

host bus is used for communicating information, such as instructions and data. Further,

attached to the host bus are the processor (controller) and the software agent (stored-

program control).

Referring to claim 6, in column 3, lines 32-40, Poisner discloses an interrupt handler (real-time controller) that is executed by the processor (controller) to investigate and cure malfunctions (see Poisner: column 1, lines 26-33). In order for the interrupt handler to investigate and cure software malfunctions, a data exchange must occur between the processor (controller) and the software agent (stored program control) via a host bus (bus system) (see Poisner, figure 2).

Referring to claims 7, 12, and 14, placing at least the controller, the memory, the monitor, and the interface of the safety device on a circuit board is inherent to a device with components such as memories, controllers, watchdog timers, and buses.

Referring to claim 8:

a.   In column 4, lines 14-26, Poisner discloses a computer system (safety device) with a processor, coupled to a host bus, for processing information (controller). Further, in column 4, lines 36-41, Poisner discloses an expansion bus bridge that couples the host bridge to an expansion bus (bus system). Devices (peripheral devices) coupled to the expansion bus include a display device, an alphanumeric input device, a BIOS read-only memory, and an information storage device for storing information including an operating system and applications.

b.   In column 4 lines 60-67 continued in column 5 lines 1-9, Poisner discloses a timer (monitor) which is periodically reset with the value stored in register (wake-up signal) by the software agent (stored-program control).

Referring to claim 13:

a.   In column 4, lines 14-26, Poisner discloses a computer system (safety

device) with a processor, coupled to a host bus, for processing information

(controller). Further, in column 4, lines 36-41, Poisner discloses an expansion

bus bridge that couples the host bridge to an expansion bus (bus system).

Devices (peripheral devices) coupled to the expansion bus include a display

device, an alphanumeric input device, a BIOS read-only memory, and an

information storage device for storing information including an operating system

and applications.

b.   In column 4, lines 36-41, Poisner discloses an alphanumeric input (control

signal) connected to an expansion bus (interface), which is in turn connected to

the host bus. In column 4, lines 14-26, Poisner discloses that the host bus is

used for communicating information, such as instructions and data. Further,

attached to the host bus are the processor (controller) and the software agent

(stored-program control).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Poisner, U.S. Patent 6,012,154. In column 2, lines 2-9, Poisner discloses generating an

interrupt when the timer runs out. This interrupt is handled by the interrupt handler,

which is internal to the system. Poisner never explicitly discloses providing an output

signal displaying the interrupt. The examiner takes official notice that in the art of error

detecting and displaying it is well known in the art to display the error (operability) in the

system (stored-program control). It would have been obvious to one of ordinary skill at

the time of the invention to include an output signal displaying the interrupt into the

system of Poisner. A person of ordinary skill in the art would have been motivated to

make the modification because in column 4, lines 1-13, Poisner discloses that the steps

of loading the timer, periodically resetting the timer during the boot process and while

attempting to cure the malfunction, and performing a more complete system reset can

be repeated any number of times. Each time the timer expires, more severe actions

can be performed in order to attempt to cure the malfunction. The most severe action

might include powering down and then powering up the system. This last action usually

requires user interaction with the system, therefore there must be an output signal

displaying the interrupt to the user.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        In U.S. Patent 6,112,320, Dien discloses a computer watchdog timer.

In U.S. Patent 6,065,139, Mehta et al. disclose a method and system for surveillance of computer system operations through monitoring of a pulse indicator from the firmware to the service processor.

In U.S. Patent 5,802,271, Hashimoto et al. disclose a terminal device management system and a method for detecting a failed terminal device using the system.

In U.S. Patent 5,404,356, Abe discloses a microcomputer with watchdog timer and I/O port control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. The examiner can normally be reached on Mon-Thu 7:30-5 and Fri. 7:30-4 (second Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703)305-9713. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3718 for regular communications and (703)305-3718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

February 22, 2002

ROBERT BEAUSOLEIL
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